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Therefore, this

United States Patent

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Attest



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United States Patent [19]

Sainton

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[54] APPARATUS AND METHODS FOR NETWORKING OMNI-MODAL RADIO DEVICES

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Related U.S. Application Data

[63] Continuation of Ser. No. 167,002, Dec. 15, 1993, abandoned.

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[52] U.S. Cl. 455/453; 455/454; 455/552

[58] Field of Search 455/438, 453, 455/454, 517, 524, 552; 379/59, 60

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[57] ABSTRACT

A network and method of operating a network of wireless service providers adapted to interact with a plurality of omni-modal wireless products within a given geographic area in a manner to permit the wireless service providers to "borrow" radio frequencies from other wireless service providers within the same geographic region. As a cellular service provider in a given region finds that one of its service areas or cells has become nearly or fully loaded, frequency could be borrowed from a competitor, such as a PCS provider serving the same region. Selected omni-modal wireless product users in the overloaded area would be told to switch their omni-modal to the "leased" frequency but to use the non-PCS communications protocol appropriate to the type of service desired by the user. Implementation of this method broadly within a given geographic region will have the effect of insuring that the available radio spectrum is used to its maximum capacity to serve the needs of the wireless users on a real time basis.

24 Claims, 16 Drawing Sheets

